and this " steam-air" gas must, if all assumptions were correct, correspond to the formula
N-3'762
This furnishes N = 3'762 o«l + ^-9^=8-762 xO'705
=2*65, which agrees remarkably with 2*64.
0*846 kilogramme C belonged to gasification into steam-air gas, and according to formula (22) there could be obtained from this quantity of carbon in steam-air gas
0*846 kilogramme C X 0*24 cubic metre hydrogen = 0*20 cubic metre H ;
and correspondingly 0*20 cubic metre water-vapour have been decomposed.
But in the foregoing ease 0*28 cubic metre had been employed, and hence the addition of steam to the air supply must be accordingly reduced a little.
Example II. — It is a rarity for so good an agreement between theory and practice to be met with, and if such be not the ease, the mode of calculation becomes somewhat more complicated.
As an example of such a case, gas No. 18 given in Table G-will serve, this gas also having been made in a producer of the most modern construction.
The composition is COa 7*0 per cent., CO 18*0 per cent., CH4 1*2 per cent., H 15*0 per cent., 0 0'3 per cent., N 58*5 per cent. Combustible value per cubic metre, 1,042 calories.
In this gas are CC>2 7*0 cubic metres, CO 18 cubic metres, CH4 1*2 cubic metre, total C-gases 26*2 cubic metres, corresponding to 14*09 kilogrammes C ; or 1 kilogramme C furnished. 7*09 cubic metres gas.
From this it follows that the gas volume was much too great; the fuel is therefore present in diluted form.
The composition of the amount of gas which results from 1 kilogramme C and its resolution into its elements gives